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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/899,066
Filing Date: July 06, 2001
Appellant(s): PARK, SE WOONG

Scott Lowe
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 6/23/2005 appealing from the Office action mailed 12/23/2004.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct.

On page 7 of the final Office Action, claims 1-5, 9, 11-13, 17, and 26-27 are rejected under 35 USC 103(a) as unpatentable over U.S. Patent 5,172,220 to Beis in view of U.S. Patent 6,046,863 to Chino. On page 14 of the final Office Action, claims 6-8, 10, 14-16, 18-25, and 28 are rejected under 35 USC 103(a) as unpatentable over U.S. Patent 5,172,220 to Beis in view of U.S. Patent 6,046,863 to Chino and further in view of U.S. Patent 5,959,669 to Mizoguchi.

The Appellant argues that there are two sets of rejections in this Application; the final Office Action presented additional rejections of the claims; and the only proper rejections of record are the newly presented grounds of rejection found on pages 7-24 of the final Office Action. In response, the the final Office Action contains only one set of rejections, presented on pages 7-24; the alleged first set of rejections, on pages 2-7, under the "Arguments" heading, is the examiner's response to Applicant's arguments presented in the amendment to non-final Office Action.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Beis	U.S. Patent 5,172,220	12-15-1992
Chino	U.S. Patent 6,046,863	4-4-2000
Mizoguchi et al.	U.S. Patent 5,959,669	9-28-1999
Williams	U.S. Patent 6,262,768	7-17-2001

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5, 9, 11-13, 17, 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beis (U.S. Pat. No. 5,172,220) in view of Chino (U.S. Pat. No. 6,046,863).

Regarding claim 1, Beis teaches surveillance camera comprising a control method of a CCD (Charge-Coupled Device) camera (col. 6, lines 15-16) having at least one photographing mode (col. 1, lines 46-50), further comprising: detecting an illumination of a photographing region to be photographed with the CCD camera (col. 2, lines 31-39); comparing the detected illumination with a reference illumination value (col. 2, lines 31-39); and setting a photographing mode of the CCD camera on the basis of comparing the detected illumination with a reference illumination value (col. 2, lines 31-39). Beis further teaches the use of a lens (Fig. 1, element 1), but does not disclose the details of the lens system, e.g. pre-storing trace data of a lens for the CCD camera;

and controlling a movement of a lens of the CCD camera in accordance with the set photographing mode by loading corresponding pre-stored trace data of the lens.

However, Chino teaches a zoom lens pre-storing trace data of a lens for the CCD camera (col. 3, lines 56-65); and controlling a movement of a lens of the CCD camera in accordance with the set photographing mode by loading corresponding pre-stored trace data of the lens (col. 4, lines 36-65). One of ordinary skill in the art would have provided the zoom lens of Chino, comprising storing and loading lens trace data in accordance with the set photographing mode, for the purpose of improving the surveillance capability camera of Beis by allowing close-up images of an intruder in a large area to be captured (col. 1, lines 11-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the zoom lens of Chino, comprising storing and loading lens trace data in accordance with the set photographing mode, for the purpose of improving the surveillance capability camera of Beis by allowing close-up images of an intruder in a large area to be captured (col. 1, lines 11-13). Furthermore, it is clear that controlling a movement of a lens of the CCD camera is performed in accordance with the set photographing mode by loading corresponding pre-stored trace data of the lens because zooming would occur in both the day and night modes of Beis.

Regarding claim 2, Beis teaches the photographing mode is set as a daytime mode when the detected illumination is not less than the reference illumination value (col. 1, lines 8-10; col. 1, lines 46-50; col. 2, lines 30-39).

Regarding claim 3, Beis teaches the photographing mode is set as a nighttime mode when the detected illumination is not greater than the reference illumination value (col. 1, lines 8-10; col. 1, lines 46-50; col. 2, lines 30-39).

Regarding claim 4, the combination of Beis and Chino clearly teach pre-stored trace data comprises first trace data and second trace data, and controlling the movement of the lens further comprises: loading pre-stored first trace data in the daytime mode; loading pre-stored second trace data in the nighttime mode; and controlling a movement of the lens on the basis of the loaded first and second trace data because Beis teaches providing a filter when operating the surveillance camera in the daytime mode (col. 6, lines 33-37) and not providing a filter when the camera is operated in the nighttime mode (col. 6, lines 40-41). Furthermore, Chino teaches a first zoom tracing curve changes upon inserting or removing optical filters, which can be compensated for by loading a second zoom tracking curve upon the insertion or removal of an optical filter (col. 2, lines 34-52).

Regarding claim 5, the combination of Beis and Chino clearly teach the first trace data and the second trace data comprise information for controlling a movement of the lens when the photographing mode is converted into the daytime mode and the nighttime mode, respectively because Beis teaches providing a filter when operating the surveillance camera in the daytime mode (col. 6, lines 33-37) and not providing a filter when the camera is operated in the nighttime mode (col. 6, lines 40-41). Furthermore, Chino teaches a first zoom tracing curve changes upon inserting or removing optical

filters, which can be compensated for by loading a second zoom tracking curve upon the insertion or removal of an optical filter (col. 2, lines 34-52.

Regarding claim 9, Beis teaches the CCD camera comprises a control unit (Fig. 1, element 8). Beis does not teach storing trace data in a memory of the CCD camera and loading trace data into the control unit of the CCD camera upon conversion of the photographing mode.

However, Chino does teaches the CCD camera (Fig. 3, element 100) comprises a control unit (Fig. 3, element 36), and further comprising: storing trace data in a memory of a CCD camera and loading trace data into the control unit of the CCD camera upon conversion of the photographing mode (col. 1, lines 28-52).

Regarding claim 11, Beis teaches a control method of a CCD (Charge-Coupled Device) camera (col. 6, lines 15-16) that has a daytime and a nighttime photographing mode (col. 1, lines 8-10), comprising: detecting an illumination of a photographing region to be photographed by a CCD camera (col. 2, lines 30-36); and setting a photographing mode of the CCD camera to a daytime mode or a nighttime mode by judging whether the detected illumination is less or greater than a reference illumination value (col. 2, lines 30-39). Beis further teaches an optical filter is provided in the daytime mode and no optical filter is provided in the nighttime mode (col. 6, lines 33-41); and using a lens (Fig. 1, element 1). Beis does not teach the capability to control the movement of the lens after loading a first and second pre-stored trace data from memory.

However, Chino does teach pre-storing first trace data and second trace data in a memory (col. 1, lines 28-52); and controlling a movement of a lens of the CCD camera on the basis of a first trace data and a second trace data (col. 1, lines 28-52). Furthermore, Chino teaches switching between a first and second zoom tracing curve upon the insertion or removal of a filter (e.g., an infrared filter) (col. 1, lines 28-52).

One of ordinary skill in the art would have loaded the first trace data in a daytime mode and loaded a second trace data in the nighttime mode in order to fix an out-of-focus condition (Chino: col. 1, lines 28-52) caused by the insertion of an infrared filter in the daytime mode and the removal of the infrared filter in the nighttime mode (Beis: col. 6, lines 33-41). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have loaded the first trace data in a daytime mode and loaded a second trace data in the nighttime mode in order to fix an out-of-focus condition caused by the insertion of an infrared filter in the daytime mode and the removal of the infrared filter in the nighttime mode.

Regarding claim 12, Beis teaches setting the daytime mode when the detected illumination is not less than the reference illumination value (col. 1, lines 9-10 and col. 2, lines 31-37).

Regarding claim 13, setting the nighttime mode when the detected illumination is not greater than the reference illumination value (col. 1, lines 9-10 and col. 2, lines 31-37).

Regarding claim 17, Chino teaches that the first and second trace data is pre-stored in a memory (col.1, lines 28-52). Furthermore, it is clear that the trace data is

stored in a map format because the positions of the focusing lens are correlated to a plurality of positions of the zoom lens (Fig. 5).

Regarding claim 26, Beis teaches a CCD (Charge-Coupled Device) camera (col. 6, lines 15-16) having at least one photographing mode (col. 1, lines 8-10), comprising: means for detecting an illumination of a photographing region to be photographed with the CCD camera (col. 2, lines 31-39); means for comparing the detected illumination with a reference illumination value (col. 2, lines 31-39); and means for setting a photographing mode of the CCD camera on the basis of comparing the detected illumination with a reference illumination value (col. 2, lines 31-39). Beis does not teach means for pre-storing trace data of a lens for the CCD camera; and means for controlling a movement of a lens of the CCD camera in accordance with the set photographing mode by using corresponding pre-stored trace data of the lens.

However, Chino teaches a zoom lens pre-storing trace data of a lens for the CCD camera (col. 3, lines 56-65); and controlling a movement of a lens of the CCD camera in accordance with the set photographing mode by using corresponding pre-stored trace data of the lens (col. 4, lines 36-65). One of ordinary skill in the art would have provided the zoom lens of Chino, comprising storing and loading lens trace data in accordance with the set photographing mode, for the purpose of improving the surveillance capability camera of Beis by allowing close-up images of an intruder in a large area to be captured (col. 1, lines 11-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the zoom lens of Chino, comprising storing and loading lens trace data in accordance with the set

photographing mode, for the purpose of improving the surveillance capability camera of Beis by allowing close-up images of an intruder in a large area to be captured (col. 1, lines 11-13). Furthermore, it is clear that controlling a movement of a lens of the CCD camera is performed in accordance with the set photographing mode by loading corresponding pre-stored trace data of the lens.

Regarding claim 27, Beis teaches a CCD (Charge-coupled Device) camera (col. 6, lines 15-16) that has a daytime and a nighttime photographing mode (col. 1, lines 8-10), comprising: means for detecting an illumination of a photographing region to be photographed by a CCD camera (col. 2, lines 31-39); and means for setting a photographing mode of the CCD camera to a daytime mode or a nighttime mode by judging whether the detected illumination is less or greater than a reference illumination value (col. 2, lines 31-39; col. 1, lines 46-50). Beis does not teach means for pre-storing first trace data and second trace data in a memory; means for loading the first trace data in the daytime mode; means for loading the second trace data in the nighttime mode; and means for controlling a movement of a lens of the CCD camera on the basis of the first trace data and the second trace data.

However, Chino does teach pre-storing first trace data and second trace data in a memory (col. 1, lines 28-52); and controlling a movement of a lens of the CCD camera on the basis of a first trace data and a second trace data (col. 1, lines 28-52).

Furthermore, Chino teaches switching between a first and second zoom tracing curve upon the insertion or removal of a filter (e.g., an infrared filter) (col. 1, lines 28-52). One of ordinary skill in the art would have loaded the first trace data in a daytime mode

and loaded a second trace data in the nighttime mode in order to fix an out-of-focus condition (Chino: col. 1, lines 28-52) caused by the insertion of an infrared filter in the daytime mode and the removal of the infrared filter in the nighttime mode (Beis: col. 6, lines 33-41). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have loaded the first trace data in a daytime mode and loaded a second trace data in the nighttime mode in order to fix an out-of-focus condition caused by the insertion of an infrared filter in the daytime mode and the removal of the infrared filter in the nighttime mode.

Claims 6-8, 10, 14-16, 18-25, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beis (U.S. Pat. No. 5,172,220), in view of Chino (U.S. Pat. No. 6,046,863), and further in view of Mizoguchi et al. (U.S. Pat. No. 5,959,669).

Regarding claim 6, Beis teaches that a filter may be placed into the optical path for photographing in a visible ray region in a daytime mode (col. 6, lines 33-42). Beis does not teach an object is photographable through an Optical Low Pass Filter (OLPF).

However, Mizoguchi et al. does teach an object is photographable through an Optical Low Pass Filter (OLPF) (col. 1, lines 20-34). One of ordinary skill in the art would have provided an OLPF filter during photographing with a color image sensor in the daytime mode in order to prevent aliasing in color images that contain high special frequencies (col. 1, lines 20-34). As a result, it would have been obvious to one skilled in the art at the time of the invention to have provided an OLPF filter during

photographing with a color image sensor in the daytime mode in order to prevent aliasing in color images that contain high special frequencies.

Regarding claim 7, Beis teaches an object is photographable in an infrared ray region without passing through an infrared filter in the black-and-white nighttime mode (col. 6, lines 33-42), where the instant application defines an infrared ray region as a region having a low illumination). Furthermore, Mizoguchi et al. teaches that the use of an OLPF is not necessary when photographing in black-and-white because black-and-white photography is not subject to false color (col. 1, lines 40-45). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have photographed an object in an infrared ray region in the black-and-white mode without the use of an OLFP because black-and-white photography is not subject to false color.

Regarding claim 8, Mizoguchi et al. teaches the CCD camera has a lens unit comprising an OLPF that is mechanically switched in or out of an optical path of the lens unit according to a photographing mode (Fig. 11a and 11b; col. 11, line 66-col. 12, line 4). One of ordinary skill in the art would have provided the ability to mechanically switch an OLPF in or out of an optical path of the lens unit according to a photographing mode in order to provide a color imaging mode without false color and a black-and-white imaging mode with high-resolution (col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the ability to mechanically switch an OLPF in or out of an optical path of the lens unit according to a photographing mode in order to provide a color imaging mode without false color and a black-and-white imaging mode with high-resolution.

Regarding claim 10, Chino teaches trace data includes values for compensating a focus error of the lens in accordance with the use or not of a filter (col. 1, lines 28-52). Chino does not teach the filter may by an OLPF filter.

However, Mizoguchi et al. teaches the filter may be of the OLPF type (col. 1, lines 20-34). One of ordinary skill in the art would have provided trace data includes values for compensating a focus error of the lens in accordance with the use or not of an OLPF in order to provide a color imaging mode without false color and a black-and-white imaging mode with high-resolution (col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided trace data includes values for compensating a focus error of the lens in accordance with the use or not of an OLPF in order to provide a color imaging mode without false color and a black-and-white imaging mode with high-resolution.

Regarding claim 14, Beis teaches that a filter may be placed into the optical path for photographing an object in a visible ray region of the lens in a daytime mode (col. 6, lines 33-42). Beis does not teach photographing an object through an Optical Low Pass Filter (OLPF).

However, Mizoguchi et al. does teach photographing an object through an Optical Low Pass Filter (OLPF) (col. 1, lines 20-34). One of ordinary skill in the art would have provided an OLPF filter during photographing with a color image sensor in the daytime mode in order to prevent aliasing in color images that contain high special frequencies (col. 1, lines 20-34). As a result, it would have been obvious to one skilled in the art at the time of the invention to have provided an OLPF filter during

photographing with a color image sensor in the daytime mode in order to prevent aliasing in color images that contain high special frequencies.

Regarding claim 15, Beis teaches photographing an object in an infrared ray region without passing through an infrared filter in the black-and-white nighttime mode (col. 6, lines 33-42), where the instant application defines an infrared ray region as a region having a low illumination). Furthermore, Mizoguchi et al. teaches that the use of an OLPF is not necessary when photographing in black-and-white because black-and-white photography is not subject to false color (col. 1, lines 40-45). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have photographed an object in an infrared ray region in the black-and-white mode without the use of an OLFP because black-and-white photography is not subject to false color.

Regarding claim 16, Chino teaches trace data includes values for compensating a focus error of the lens in accordance with the use or not of a filter (col. 1, lines 28-52). Chino does not teach the filter may by an OLPF filter.

However, Mizoguchi et al. teaches the filter may be of the OLPF type (col. 1, lines 20-34). One of ordinary skill in the art would not have used an OLPF filter in order to provide a black-and-white imaging mode with high-resolution (Mizoguchi et al.: col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention not to have used an OLPF filter in order to provide a black-and-white imaging mode with high-resolution. Furthermore, one of ordinary skill in the art would have used the second trace data for compensating a focus error in accordance with the non-use of the OLPF in order compensate for an out-of-focus

condition caused by the removal of the filter (Beis: col.1, lines 34-44). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the second trace data for compensating a focus error in accordance with the non-use of the OLPF in order compensate for an out-of-focus condition caused by the removal of the filter.

Regarding claim 18, Beis and Chino teach the first trace data is for compensating a focus error of the lens varied through a filter in the daytime mode (please see the 103 rejection of claim 11). Neither Beis nor Chino teach the filter may be configured as an OLPF.

However, Mizoguchi et al. teaches the filter may be of the OLPF type (col. 1, lines 20-34). One of ordinary skill in the art would have provided the first trace data for compensating a focus error of the lens varied through a OLPF filter in the daytime mode in order to provide a daytime color imaging mode without false color (col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided a first trace data for compensating a focus error of the lens varied through an OLPF in the daytime mode.

Regarding claim 19, Mizoguchi et al. further teaches the CCD camera has a lens unit comprising an OLPF that is mechanically switched in or out of an optical path of the lens unit according to a photographing mode (Fig. 11a and 11b; col. 11, line 66-col. 12, line 4). One of ordinary skill in the art would have provided the ability to mechanically switch an OLPF in or out of an optical path of the lens unit according to a photographing mode in order to provide a color imaging mode without false color and a black-and-

white imaging mode with high-resolution (col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the CCD camera comprising a lens unit and an optical low pass filter included in the lens unit of the CCD camera which is mechanically switchable in and out of an optical path of the lens in order to provide a color imaging mode without false color and a black-and-white imaging mode with high-resolution.

Regarding claim 20, Beis and Chino teach the second trace data is for compensating a focus error of the lens varied by not passing through a filter in the nighttime mode (please see the 103 rejection of claim 11). Neither Beis nor Chino teach the filter may be configured as an OLPF.

However, Mizoguchi et al. teaches the filter may be of the OLPF type (col. 1, lines 20-34). One of ordinary skill in the art would have provided the second trace data for compensating a focus error of the lens varied by not passing through the OLPF in the nighttime mode in order to provide the black-and-white imaging mode with high-resolution (col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the second trace data for compensating a focus error of the lens varied by not passing through the OLPF in the nighttime mode in order to provide the black-and-white imaging mode with high-resolution.

Regarding claim 21, Beis teaches a control method of a CCD (Charge-Coupled Device) camera (col. 6, lines 15-16) having a lens (Fig. 1, element 1), and a nighttime mode and a daytime mode (col. 1, lines 8-10), comprising: detecting an illumination of a

photographing region to be photographed by a CCD camera (col. 2, lines 30-39); and converting a photographing mode of the CCD camera into the daytime mode or the nighttime mode by judging whether the detected illumination is not less or greater than a reference illumination value (col. 1, lines 8-10; col. 2, lines 30-30). Furthermore, Beis teaches photographing the photograph region through a filter when the photographing mode is converted into the daytime mode (col. 1, lines 8-10; col. 6, lines 33-41); and photographing the photograph region without imaged light of the photographing region passing through a filter when the photographing mode is converted into the nighttime mode (col. 1, lines 8-10; col. 6, lines 33-41).

Beis does not teach pre-storing first and second trace data of a lens for the CCD camera; loading the first trace data for controlling a lens of the CCD camera so as to photograph the photographing region through an OLPF (Optical Low Pass Filter) when the photographing mode is converted into the daytime mode; loading the second trace data for controlling the lens of the CCD camera so as to photograph the photographing region without imaged light of the photographing region passing through the OLPF when the photographing mode is converted into the nighttime mode; and adjusting a focus of the lens of the CCD camera on the basis of the loaded trace data.

However, Chino teaches pre-storing first and second trace data of a lens for the CCD camera (col. 1, lines 28-52). Futhermore, the combination of Beis and Chino clearly teach loading the first trace data for controlling a lens of the CCD camera so as to photograph the photographing region through a filter when the photographing mode is converted into the daytime mode; and loading the second trace data for controlling

the lens of the CCD camera so as to photograph the photographing region without imaged light of the photographing region passing through the filter when the photographing mode is converted into the nighttime mode; and adjusting a focus of the lens of the CCD camera on the basis of the loaded trace data. This is true because Beis teaches providing a filter when operating the CCD camera in the daytime mode (col. 6, lines 33-37) and not providing a filter when the camera is operated in the nighttime mode (col. 6, lines 40-41); and because Chino teaches a first zoom tracing curve changes upon inserting or removing an optical filter, which can be compensated for by loading a second zoom tracking curve upon the insertion or removal of the optical filter (col. 2, lines 34-52). One of ordinary skill in the art would have loaded the first trace data in a daytime mode and loaded a second trace data in the nighttime mode in order to fix an out-of-focus condition (Chino: col. 1, lines 28-52) caused by the insertion of an infrared filter in the daytime mode and the removal of the infrared filter in the nighttime mode (Beis: col. 6, lines 33-41). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have loaded the first trace data in a daytime mode and loaded a second trace data in the nighttime mode in order to fix an out-of-focus condition caused by the insertion of an infrared filter in the daytime mode and the removal of the infrared filter in the nighttime mode.

Neither Beis nor Chino teach the filter may be configured as an OLPF. However, Mizoguchi et al. teaches the filter may be of the OLPF type (col. 1, lines 20-34). One or ordinary skill in the art would have provided a OLPF in order to provide a daytime color imaging mode without false color and a nighttime black-and-white imaging mode with

high-resolution (col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided a OLPF in order to provide a daytime color imaging mode without false color and a nighttime black-and-white imaging mode with high-resolution.

Regarding claim 22, Chino teaches the first trace data and the second trace data are for compensating a focus error in accordance with the use or not of a filter (col. 1, lines 28-52). Mizoguchi et al. further teaches the filter may be of the OLPF type (col. 1, lines 20-34).

Regarding claim 23, please see the 103 rejection of claim 21 and note that the combination of Beis and Chino teach the first trace data loading process is performed in the daytime mode.

Regarding claim 24, please see the 103 rejection of claim 21 and note that the combination of Beis and Chino teach the second trace data loading process is performed in the nighttime mode.

Regarding claim 25, Mizoguchi et al. further teaches the optical low pass filter is included in the camera and is mechanically switchable in or out of an optical path of the lens in accordance with the photographing mode (Fig. 11a and 11b; col. 11, line 66-col. 12, line 4). One of ordinary skill in the art would have provided the ability to mechanically switch an OLPF in or out of an optical path of the lens according to a photographing mode in order to provide a daytime color imaging mode without false color and a nighttime black-and-white imaging mode with high-resolution (col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the

time of the invention to have provided the ability to mechanically switch an OLPF in or out of an optical path of the lens according to a photographing mode in order to provide a daytime color imaging mode without false color and a nighttime black-and-white imaging mode with high-resolution.

Regarding claim 28, Beis teaches a CCD (Charge-Coupled Device) camera (col. 6, lines 15-16) having a lens (Fig. 1, element 1) and a nighttime mode and a daytime mode(col. 1, lines 8-10), comprising: means for detecting an illumination of a photographing region to be photographed by a CCD camera (col. 2, lines 31-39); and means for converting a photographing mode of the CCD camera into the daytime mode or the nighttime mode by judging whether the detected illumination is not less or greater than a reference illumination value (col. 2, lines 31-39; col. 1, lines 46-50).

Beis does not teach means for pre-storing first and second trace data of a lens for the CCD Camera; means for loading the first trace data for controlling a lens of the CCD camera so as to photograph the photographing region through an OLPF (Optical Low Pass Filter) when the photographing mode is converted into the daytime mode; means for loading the second trace data for controlling the lens of the CCD camera so as to photograph the photographing region without imaged light of the photographing region passing through the OLPF when the photographing mode is converted into the nighttime mode; and means for adjusting a focus of the lens of the CCD camera on the basis of the loaded trace data.

However, Chino teaches pre-storing first and second trace data of a lens for the CCD camera (col. 1, lines 28-52). Futhermore, the combination of Beis and Chino

clearly teach loading the first trace data for controlling a lens of the CCD camera so as to photograph the photographing region through a filter when the photographing mode is converted into the daytime mode; and loading the second trace data for controlling the lens of the CCD camera so as to photograph the photographing region without imaged light of the photographing region passing through the filter when the photographing mode is converted into the nighttime mode; and adjusting a focus of the lens of the CCD camera on the basis of the loaded trace data. This is true because Beis teaches providing a filter when operating the CCD camera in the daytime mode (col. 6, lines 33-37) and not providing a filter when the camera is operated in the nighttime mode (col. 6, lines 40-41); and because Chino teaches a first zoom tracing curve changes upon inserting or removing an optical filter, which can be compensated for by loading a second zoom tracking curve upon the insertion or removal of the optical filter (col. 2, lines 34-52). One of ordinary skill in the art would have loaded the first trace data in a daytime mode and loaded a second trace data in the nighttime mode in order to fix an out-of-focus condition (Chino: col. 1, lines 28-52) caused by the insertion of an infrared filter in the daytime mode and the removal of the infrared filter in the nighttime mode (Beis: col. 6, lines 33-41). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have loaded the first trace data in a daytime mode and loaded a second trace data in the nighttime mode in order to fix an out-of-focus condition caused by the insertion of an infrared filter in the daytime mode and the removal of the infrared filter in the nighttime mode.

Neither Beis nor Chino teach the filter may be configured as an OLPF. However, Mizoguchi et al. teaches the filter may be of the OLPF type (col. 1, lines 20-34). One or ordinary skill in the art would have provided a OLPF in order to provide a daytime color imaging mode without false color and a nighttime black-and-white imaging mode with high-resolution (col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided a OLPF in order to provide a daytime color imaging mode without false color and a nighttime black-and-white imaging mode with high-resolution.

(10) Response to Arguments

Group A: Claims 1-5, 9, 11-13, 17, and 26-27

The Appellant states "Chino discloses a digital video cassette recorder (VCR) that has a zoom lens and an auto-focus mechanism that maintains the image in focus while the lens is zoomed." To be clear, the "digital VCR" of Chino is understood to be a digital video camera recorder; a television video cassette recorder comprises a magnetic recording head, video cameras comprise CCDs and zoom lenses (see Chino, Fig. 3).

The Appellant argues that the final Office Action fails to meet its burden of demonstrating proper motivation for one of ordinary skill in the art to modify Beis; Beis and Chino are concerned with distinctly different problems, and that they function differently; Beis discloses a surveillance camera with a fixed lens that is not adjusted

and cannot zoom, and contains no disclosure or suggestion of using a zoom lens system or a zoom lens system with auto focus or a system that uses a neutral density filter that upsets auto focus (p. 13).

In response, Beis describes a day-night black and white and color CCD camera, and Chino discloses a zoom lens control method of a CCD camera. Clearly, Beis and Chino are in the same field of applicant's endeavor and are reasonably pertinent to the particular problem with which the applicant was concerned. Furthermore, Chino teaches the use and not use of optical filters in the optical path of the lens. In particular, Chino teaches inserting and removing a filter into/from the optical path of the lens system for "further improving picture quality" or "adding a new function". Chino discloses several examples of filters, including using an ND filter to prevent diffraction, and an IR cut-off filter for raising the sensitivity of the lens and clearly anticipates the use of other filters ("or the like") (col. 4, lines 36-44).

As stated in the non-final Office Action, "it would have been obvious to one of ordinary skill in the art at the time of the invention to use the zoom lens of Chino to provide detailed images of far away objects". As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the zoom lens of Chino in order to provide detailed images of far away objects in the surveillance camera of Beis.

The Appellant argues (p. 16):

> The final Office Action concludes that it would be obvious to modify Beis with the zoom lens of Chino to use the zoom lens of Chino to provide detailed images of far away objects. The rationale for this is the allegedly well-known ability of a zoom lens to allow

> distant objects to be imaged and the unsupported conclusion that providing a zoom lens for Beis would enhance its surveillance function.

In rebuttal, the Examiner provides Williams as evidence under MPEP §2144.03(D) that it was well known in the art at the time of the invention to provide a zoom lens for day/night color and black and white CCD surveillance cameras (col. 3, lines 27-42; col. 4, lines 24-26).

The Appellant argues (p. 16):

> Going even further, the final Office Action speculatively asserts that the zoom capability provided by Chino would operate with the set photographing mode because zooming would take place in both modes.

In response, the orientation of the reflector 3 (Fig. 1) sets the photographing mode and that the lens operates with the set photographing mode (Fig. 1). The Examiner asserts that providing a zoom lens for lens 3 does not alter the operation or relationship between the lens system and the image sensors 4 and 11.

The Appellant argues (p. 17-18):

> The final Office Action also states that in no way does the previous Office Action suggest supplanting the optical filter of Beis with a neutral density filter and that it is clear that the zoom lens of Chino would function in harmony with the optical filter of Beis. Appellant respectfully submits that this admission in the final Office Action further teaches away from the proposed modification of Beis by Chino because each reference discloses the use of only a single filter. There is no teaching in either reference of using two filters, especially of one using a zoom lens in Beis instead of the Beis fixed focus lens.

In order to clarify, in the embodiment of Fig. 4, Beis discloses:

> As indicated by the legends, each of the color sensing cells 51 is provided with a red, green or blue filter as is necessary for the production of color images. The infrared filter

> required for color exposures has not been illustrated and, during daytime operation, for example, can be moved into the light path by means of a simple mechanism. Alternatively, the infrared filter can be fixedly mounted on the color sensing cells 51 if technologically feasible.

The Office Action did not suggest supplanting the infrared filter in Beis with the ND filter of Chino. Rather, the teaching of Beis was used to illustrate inserting and removing optical filters into the optical path based on a daytime or nighttime mode. Furthermore, the teaching of Chino was used to illustrate that upon inserting optical filters into the path length, it is necessary to use a second zoom tracking curve to compensate the change in optical path length of a zoom lens optical system. Further still, the presence of an infrared filter fixedly mounted on the color image sensor does not preclude the use of a zoom lens comprising an optical filter, as disclosed by Chino, for improving image quality.

The Appellant argues (p. 19-20):

> Beis indicates no problem with focusing in either situation, i.e., regardless of whether the infrared filter is switched into and out of the light. This is understandable because Beis does not teach a zoom lens system. Beis discloses nothing more than a single objective lens fixed focus system 1, which does not need to adjust focus when a filter is inserted therein. Chino, on the other hand, contains no disclosure or suggestion of (1) a surveillance camera system, or (1) a fixed focus lens, or (2) how to identify an object of interest to zoom in on or away from in a surveillance operation; or (3) how to track an object of interest to zoom in on or zoom away from in a surveillance operation. Moreover, Chino is disclosed as an image pickup for a digital VCR and is concerned primarily with maintaining a zoom image in focus when a filter is inserted into and/or out of the zoom lens system. Appellant respectfully submits that these substantial

> differences between the references teach away from combining them, as suggested. Beis has no disclosure or suggestion of using a zoom lens system for surveillance, nor does Chino, and Beis's fixed lens system has no need for a focus change when a filter is inserted into and/or out of its light path.

As shown above, Beis and Chino are in the same field of applicant's endeavor and are reasonably pertinent to the particular problem with which the applicant was concerned. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. The differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a designer having ordinary skill in the art to which said subject matter pertains.

The Appellant argues (p. 20-21):

> The final Office Action fails to provide any objective factual evidence that one or ordinary skill in the art would desire to modify a relatively fixed focus surveillance camera like that of Beis with a sophisticated autofocus zoom lens system incorporating a neutral density filter. Furthermore, as pointed out above, the mere fact that these two references may be combined in some way does not make the modification obvious unless the prior art suggested the desirability of the modification. All that is presented in terms of motivation is the alleged desirability of providing detailed images of far away objects. However, this statement is nothing more than a broad, conclusory, speculative statement that, standing alone, is not evidence of motivation to modify Beis and provide a Beis with a zoom lens having autofocus characteristics and a neutral density filter. Appellant respectfully submits that the only motivation for combining these two disparate references is improper hindsight reconstruction of Appellant's invention using Appellant's disclosure against

> Appellant. Moreover, even if these references were combined as suggested, they would not result in the claimed invention because Beis does not control movement of its lens at all and there would be no incentive to move the newly applied Beis-chino zoom lens in accordance with the set (b/w or color detection) photographing mode. Neither applied reference discloses or suggests such a feature. The only incentive to control movement of the Beis-chino zoom lens would be when the lens goes out of focus, but this is not what is claimed.

In response, please see the discussion of Williams, used as evidence of the combination of a security camera and zoom lens. Furthermore, to be clear, the Examiner is not relying on Chino for a ND filter, but rather as a teaching for a second zoom tracking curve to compensate the change in optical path length of a zoom lens optical system upon insertion of an optical filter into the optical path. Further still, Beis discloses the inserting an optical filter into the optical path upon switching to the daytime (color) mode (col. 6, lines 34-39).

The Appellant argues (p. 22):

> Furthermore, with respect to claim 11, there is no disclosure in either applied reference of correlating first trace data to a daylight mode and second trace data to nighttime mode. Presumably, Chino's zoom lens goes in and out of focus only when a neutral density filter is inserted into or removed from the lens path, and there is no disclosure of relating the insertion and/or removal of the neutral density filter to operation in a daytime or nighttime mode, and Beis doesn't even address the issue of using a neutral density filter. In short, there is absolutely no disclosure in either reference of the relationship of the first trace data to a daylight mode and second trace data to nighttime mode or of controlling movement of a lens on the basis of the recited first and second trace data.

In response, Beis discloses the inserting an optical filter into the optical path upon switching to the daytime mode (col. 6, lines 34-39). Furthermore, Chino teaches use of a second zoom tracking curve to compensate the change in optical path length of a zoom lens optical system upon insertion of an optical filter into the optical path.

Group B: Claims 6-8, 10, 14-16, and 18-25

The appellant argues (p. 24):

> Beis does not disclose a need for an OLPF. As pointed out in the rejection, with reference to Beis, col. 4, lines 33-39, Beis uses a simple infrared cutoff filter. An infrared filter cuts off (absorbs) infrared radiation and passes visible light. Beis's infrared filter cuts off (absorbs) just the high (infrared) frequencies, while passing the visible frequencies. Without a showing of a need for an OLPF, there is no need to even consider the Mizoguchi reference. Beis discloses no need for such a filter and the final Office Action fails to present objective evidence of such a need.

In response, the proper inquiry to combine references is "whether there is something in the prior art as a whole to suggest the desirability of making the combination" MPEP §2143.01. In this case, Mizoguchi teaches the motivation to provide an OLPF filter during photographing with a color image sensor in the daytime mode is for preventing aliasing in color images that contain high special frequencies.

The Appellant argues (p. 25):

> Appellant respectfully disagrees Mizoguchi. In col. 1, lines 40-55, Mizoguchi actually teaches that, when photographing in black and white, one may either remove a low pass filter or use a low pass filter depending on the spatial transmission frequency spectrum of the low pass filter. In other words, Mizoguchi actually teaches using a low pass filter for

> color or black and white photography, depending on the spatial frequency characteristics of the low pass filter.

In response, Mizoguchi teaches in the "Background of the Invention" the insertion of an OLPF for color imaging and the removal of the OLPF for black and white imaging (col. 1, lines 20-55), and further submits that this is old in the art.

The Appellant argues (p. 25):

> Mizoguchi is concerned with different issues than are Beis and Chino.

The Examiner disagrees. Beis discloses the desirability of providing a daytime (color) and nighttime (black and white) camera; Chino discloses a camera zoom lens comprising optical filters for improving image quality, and Mizoguchi discloses the use of an OLPF for improving image quality of images captured by a color image sensor.

The Appellant argues (p. 26):

> Mizoguchi never once mentions day-night photographing. Mizoguchi only mentions low pass filters in connection with black and white photography and the only example of this that is given is black and white photography of a document. In fact, a computerized word search on uspto.gov of Mizoguchi reveals no mention of night' and the only mention of day' is found in col. 19, lines 51-61 and has nothing to do with day-night photography.

In response, Beis discloses color imaging in the daytime and black and white imaging in the nighttime; and Mizoguchi disclose the use of an OLPF for color imaging and the removal of the OLPF for black and white imaging. The Examiner submits that from this teaching, one of ordinary skill in the art at the time of the invention would have known to have used an OLFP for color imaging in the daytime and removed the OLPF for black and white imaging in the nighttime.

The Appellant argues (p. 27):

> There is no objective evidence of record that would provide proper motivation for one of ordinary skill in the art to turn to the high resolution document camera art exemplified by Mizoguchi that employs a crystal low pass filter designed to reduce or eliminate an aliasing distortion or color moiré in Mizoguchi's system, which has no indication that it has such problems. Moreover, Chino does not disclose that it has the problems that are addressed by Mizoguchi. This is persuasive evidence that the rejection is based on improper hindsight reconstruction of Appellant's invention based solely on Appellant's disclosure and on the improper practice of picking and choosing individual references to combine without any proper motivation to do so absent solely following Appellant's disclosure to achieve the claimed invention. Appellant respectfully submits that the final Office Action is picking and choosing references that are not concerned with the same issues and combining them in a completely arbitrary manner based solely on Appellant's disclosure in a completely improper hindsight manner.

In response, the proper inquiry to combine references is "whether there is something in the prior art as a whole to suggest the desirability of making the combination" MPEP §2143.01. In this case, Mizoguchi teaches the motivation to provide an OLPF filter during photographing with a color image sensor in the daytime mode is for preventing aliasing in color images that contain high special frequencies. Furthermore, it should be noted that since the pixels of the imaging array are discrete components, the phenomenon of aliasing is inherent in the image sensor.

The Appellant argues (p. 28):

> Further, with respect to claim 21, there is no disclosure in either applied reference of relating first trace data to a daylight mode and second trace data to a nighttime mode. Presumably, Chino's zoom lens goes in and out of focus only when a neutral density filter is inserted into or removed from the lens path, and there is no disclosure of relating the

insertion and/or removal of the neutral density filter to operation in a daytime or nighttime mode, and Beis doesn't even address the issue of using a neutral density filter. In short, there is absolutely no disclosure in either reference of the relationship of the first trace data to a daylight mode and second trace data to a nighttime mode or of controlling movement of a lens on the basis of the recited first and second trace data.

In response, the Examiner is not relying on Chino for a ND filter, but rather as a teaching for a second zoom tracking curve to compensate the change in optical path length of a zoom lens optical system upon insertion of an optical filter into the optical path. Beis discloses the inserting an optical filter into the optical path upon switching to the daytime (color) mode (col. 6, lines 34-39). Furthermore, Mizoguchi teaches inserting an OLPF into the optical path of color imaging. From these teachings, the Examiner submits it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided a first trace data for a color imaging daytime mode and a second trace data for a black and white nighttime mode.

Group C1: Claims 1-5, 9, 11-13, 17, and 26-27

Regarding Group C1, please see the response to arguments of Group A, which are substantially similar.

Group C2: Claims 6-8, 10, 14-16, and 18-25

Regarding Group C2, please see the response to arguments of Group B, which are substantially similar

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Brian Jelinek

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October 26, 2005

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